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THE SCOOP ON POOP: PIG MANURE DISPOSAL

BY EVAN SLOAN

The children's classic *Everyone Poops* taught us everybody poops this of course includes animals.^[i] (file:///C:/Users/Evan/Documents/KJournal/Online%20Editor%20Stuff/Blog%20Posts/Evan%20Sloan%20Blog%202.docx#_edn1) However, one thing this classic failed to mention is that animal waste can be hazardous to both humans, and the environment. The story of Gene and Austin Opheim is perfect example of the unexpected danger of animal waste.

Gene and Austin were a father and son who the *Des Moines Register* described as being so close that they were like glue.^[ii]

(file:///C:/Users/Evan/Documents/KJournal/Online%20Editor%20Stuff/Blog%20Posts/Evan%20Sloan%20Blog%202.docx#_edn2) They were also lifelong farmers who would spend their days doing chores, that is, until one of these chores killed them.^[iii]

(file:///C:/Users/Evan/Documents/KJournal/Online%20Editor%20Stuff/Blog%20Posts/Evan%20Sloan%20Blog%202.docx#_edn3) The two were repairing a pump at a hog pen when a piece of equipment fell into the manure pit.^[iv]

(file:///C:/Users/Evan/Documents/KJournal/Online%20Editor%20Stuff/Blog%20Posts/Evan%20Sloan%20Blog%202.docx#_edn4) Austin ventured into the pit to retrieve the part and he was overcome by the noxious gasses in the pit.^[v]

(file:///C:/Users/Evan/Documents/KJournal/Online%20Editor%20Stuff/Blog%20Posts/Evan%20Sloan%20Blog%202.docx#_edn5) When Gene discovered that his son had been overcome by the gases he rushed to his aid.^[vi]

(file:///C:/Users/Evan/Documents/KJournal/Online%20Editor%20Stuff/Blog%20Posts/Evan%20Sloan%20Blog%202.docx#_edn6) However, Gene too became overcome by the gases.^[vii]

(file:///C:/Users/Evan/Documents/KJournal/Online%20Editor%20Stuff/Blog%20Posts/Evan%20Sloan%20Blog%202.docx#_edn7) A father and son were dead, and their deaths were caused by, of all things, pig poop. Sadly, occurrences like this happen all too often. In fact, that very same month another father and son also died when they were overcome by the gases in a manure pit.^[viii]

(file:///C:/Users/Evan/Documents/KJournal/Online%20Editor%20Stuff/Blog%20Posts/Evan%20Sloan%20Blog%202.docx#_edn8) Just what is it that makes pig poop so deadly? According to Daniel Anderson, a manure management professor at Iowa State University, it is due to the hydrogen sulfide and other gases, like methane, ammonia, and carbon dioxide, that are formed when manure decomposes.^[ix]

(file:///C:/Users/Evan/Documents/KJournal/Online%20Editor%20Stuff/Blog%20Posts/Evan%20Sloan%20Blog%202.docx#_edn9) Anderson suggests that those working with manure wear breathing apparatuses to protect themselves.^[x]

(file:///C:/Users/Evan/Documents/KJournal/Online%20Editor%20Stuff/Blog%20Posts/Evan%20Ioan%20Blog%202.docx#_edn10) Pig manure poses more than an occupational hazard it poses and environmental hazard as well.

North Carolina is home to almost as many hogs as humans, and is the second largest pork producer in the United States.^[xi]

(file:///C:/Users/Evan/Documents/KJournal/Online%20Editor%20Stuff/Blog%20Posts/Evan%20Ioan%20Blog%202.docx#_edn11) This means that North Carolina has to deal with a lot of pig waste. In fact, five counties in eastern North Carolina produced 15.5 million tons of hog manure a year.^[xii]

(file:///C:/Users/Evan/Documents/KJournal/Online%20Editor%20Stuff/Blog%20Posts/Evan%20Ioan%20Blog%202.docx#_edn12) The standard waste disposal practice is called the lagoon and spray field system.^[xiii]

(file:///C:/Users/Evan/Documents/KJournal/Online%20Editor%20Stuff/Blog%20Posts/Evan%20Ioan%20Blog%202.docx#_edn13) Farmers flush feces and urine from barns into open-air pits called lagoons.^[xiv]

(file:///C:/Users/Evan/Documents/KJournal/Online%20Editor%20Stuff/Blog%20Posts/Evan%20Ioan%20Blog%202.docx#_edn14) Bacteria in these lagoons turn the slurry of feces and urine an unearthy pink.^[xv]

(file:///C:/Users/Evan/Documents/KJournal/Online%20Editor%20Stuff/Blog%20Posts/Evan%20Ioan%20Blog%202.docx#_edn15) When the lagoons are full the farmers spray the liquid manure on their fields.^[xvi]

(file:///C:/Users/Evan/Documents/KJournal/Online%20Editor%20Stuff/Blog%20Posts/Evan%20Ioan%20Blog%202.docx#_edn16) Steve Wing, an epidemiologist at the University of North Carolina, has said that due to this method, “[t]he eastern part of North Carolina is covered with shit.”^[xvii]

(file:///C:/Users/Evan/Documents/KJournal/Online%20Editor%20Stuff/Blog%20Posts/Evan%20Ioan%20Blog%202.docx#_edn17) This poses a real health risk for those living in the eastern part of North Carolina. As several studies have shown, that large concentrations of hog waste can be the cause of a myriad of ailments ranging from depression to respiratory illnesses.^[xviii]

(file:///C:/Users/Evan/Documents/KJournal/Online%20Editor%20Stuff/Blog%20Posts/Evan%20Ioan%20Blog%202.docx#_edn18) People living near large hog farms may not even be able to spend time outside. Long periods of exposure to the hog waste fumes can result in coughing, gagging, and feelings of nausea.^[xix]

(file:///C:/Users/Evan/Documents/KJournal/Online%20Editor%20Stuff/Blog%20Posts/Evan%20Ioan%20Blog%202.docx#_edn19) Elsie Herring knows these problems better than anyone.

In the 1980s a hog farmer moved next door to Elsie.^[xx]

(file:///C:/Users/Evan/Documents/KJournal/Online%20Editor%20Stuff/Blog%20Posts/Evan%20Ioan%20Blog%202.docx#_edn20) This farmer built his spray field close to Elsie's home.^[xxi]

(file:///C:/Users/Evan/Documents/KJournal/Online%20Editor%20Stuff/Blog%20Posts/Evan%20Ioan%20Blog%202.docx#_edn21) When the farm sprays the hog manure on this field, the smell wafts over to Elsie's home and causes her to cough and her eyes to burn.^[xxii]

(file:///C:/Users/Evan/Documents/KJournal/Online%20Editor%20Stuff/Blog%20Posts/Evan%20Ioan%20Blog%202.docx#_edn22) The smell is so bad that Elise is even embarrassed to have company.^[xxiii]

(file:///C:/Users/Evan/Documents/KJournal/Online%20Editor%20Stuff/Blog%20Posts/Evan%20Ioan%20Blog%202.docx#_edn23)



What is being done to prevent people like Gene and Austin from dying, and the health of people like Elise from being affected? Sadly, not much. Only twenty states have set back rules.^[xxiv]

(file:///C:/Users/Evan/Documents/KJournal/Online%20Editor%20Stuff/Blog%20Posts/Evan%20Ioan%20Blog%202.docx#_edn24) These rules require that hog farms are set back anywhere from 50 to 16,000 feet from other property.^[xxv]

(file:///C:/Users/Evan/Documents/KJournal/Online%20Editor%20Stuff/Blog%20Posts/Evan%20Sloan%20Blog%202.docx#_edn25) The size of the set back is oftentimes based on the source (lagoon, etc) or based on the type of abutting property (park, home or school).[xxvi]

(file:///C:/Users/Evan/Documents/KJournal/Online%20Editor%20Stuff/Blog%20Posts/Evan%20Sloan%20Blog%202.docx#_edn26) The most common regulatory is simply a permit system. Forty-one states have permit systems.[xxvii]

(file:///C:/Users/Evan/Documents/KJournal/Online%20Editor%20Stuff/Blog%20Posts/Evan%20Sloan%20Blog%202.docx#_edn27) In order for producers to gain these permits, they must comply with various state and federal regulations.[xxviii]

(file:///C:/Users/Evan/Documents/KJournal/Online%20Editor%20Stuff/Blog%20Posts/Evan%20Sloan%20Blog%202.docx#_edn28) While these are steps in the right direction more must be done if we are to protect both humans and the environment from the hazards of pig poop.

[i]

(file:///C:/Users/Evan/Documents/KJournal/Online%20Editor%20Stuff/Blog%20Posts/Evan%20Sloan%20Blog%202.docx#_ednref1) *See generally* Taro Gomi, Everyone Poops (2003).

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(file:///C:/Users/Evan/Documents/KJournal/Online%20Editor%20Stuff/Blog%20Posts/Evan%20Sloan%20Blog%202.docx#_ednref2) Grant Rodgers & Donnelle Eller, *Iowa Father, Son Die from Manure Pit Fumes*, The Des Moines Register (July 30 , 2015, 9:16 AM), <http://www.desmoinesregister.com/story/money/agriculture/2015/07/28/iowa-father-son-die-manure-pit-fumes/30809037/>

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(file:///C:/Users/Evan/Documents/KJournal/Online%20Editor%20Stuff/Blog%20Posts/Evan%20Sloan%20Blog%202.docx#_ednref3) *Id.*

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(file:///C:/Users/Evan/Documents/KJournal/Online%20Editor%20Stuff/Blog%20Posts/Evan%20Sloan%20Blog%202.docx#_ednref4) *Id.*

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(file:///C:/Users/Evan/Documents/KJournal/Online%20Editor%20Stuff/Blog%20Posts/Evan%20Sloan%20Blog%202.docx#_ednref5) *Id.*

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(file:///C:/Users/Evan/Documents/KJournal/Online%20Editor%20Stuff/Blog%20Posts/Evan%20Sloan%20Blog%202.docx#_ednref6) *Id.*

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(file:///C:/Users/Evan/Documents/KJournal/Online%20Editor%20Stuff/Blog%20Posts/Evan%20Sloan%20Blog%202.docx#_ednref7) *Id.*

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(file:///C:/Users/Evan/Documents/KJournal/Online%20Editor%20Stuff/Blog%20Posts/Evan%20Sloan%20Blog%202.docx#_ednref9) *Id.*

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(file:///C:/Users/Evan/Documents/KJournal/Online%20Editor%20Stuff/Blog%20Posts/Evan%20Sloan%20Blog%202.docx#_ednref10)*Id.*

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(file:///C:/Users/Evan/Documents/KJournal/Online%20Editor%20Stuff/Blog%20Posts/Evan%20Sloan%20Blog%202.docx#_ednref11) Sara Peach, *What to Do About Pig Poop? North Carolina Fights a Rising Tide*, National Geographic (Oct. 30 2014), <http://news.nationalgeographic.com/news/2014/10/141028-hog-farms-waste-pollution-methane-north-carolina-environment/>

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(file:///C:/Users/Evan/Documents/KJournal/Online%20Editor%20Stuff/Blog%20Posts/Evan%20Sloan%20Blog%202.docx#_ednref12) *Id.*

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(file:///C:/Users/Evan/Documents/KJournal/Online%20Editor%20Stuff/Blog%20Posts/Evan%20Sloan%20Blog%202.docx#_ednref13) *Id.*

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(file:///C:/Users/Evan/Documents/KJournal/Online%20Editor%20Stuff/Blog%20Posts/Evan%20Sloan%20Blog%202.docx#_ednref14) *Id.*

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(file:///C:/Users/Evan/Documents/KJournal/Online%20Editor%20Stuff/Blog%20Posts/Evan%20Sloan%20Blog%202.docx#_ednref15) *Id.*

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(file:///C:/Users/Evan/Documents/KJournal/Online%20Editor%20Stuff/Blog%20Posts/Evan%20Sloan%20Blog%202.docx#_ednref16) *Id.*

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(file:///C:/Users/Evan/Documents/KJournal/Online%20Editor%20Stuff/Blog%20Posts/Evan%20Sloan%20Blog%202.docx#_ednref17) *Id.*

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(file:///C:/Users/Evan/Documents/KJournal/Online%20Editor%20Stuff/Blog%20Posts/Evan%20Sloan%20Blog%202.docx#_ednref18) Conor Kennedy, *Hog Waste Causes Environmental, Socioeconomic Disasters*, Technician (Jan. 6, 2016), http://www.technicianonline.com/news/article_334b5bdc-b4f3-11e5-b31f-af277c4f3939.html

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(file:///C:/Users/Evan/Documents/KJournal/Online%20Editor%20Stuff/Blog%20Posts/Evan%20Sloan%20Blog%202.docx#_ednref19) *Id.*

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(file:///C:/Users/Evan/Documents/KJournal/Online%20Editor%20Stuff/Blog%20Posts/Evan%20Sloan%20Blog%202.docx#_ednref20) Peach, *supra* note xi.

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(file:///C:/Users/Evan/Documents/KJournal/Online%20Editor%20Stuff/Blog%20Posts/Evan%20Sloan%20Blog%202.docx#_ednref21) *Id.*

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(file:///C:/Users/Evan/Documents/KJournal/Online%20Editor%20Stuff/Blog%20Posts/Evan%20Sloan%20Blog%202.docx#_ednref23) *Id.*

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(file:///C:/Users/Evan/Documents/KJournal/Online%20Editor%20Stuff/Blog%20Posts/Evan%20Sloan%20Blog%202.docx#_ednref24) Gretchen Vander Wal, *44 States Regulate Odors on Hog Farms*, National Hog Farmer (Mar. 15, 2001), http://nationalhogfarmer.com/mag/farming_states_regulate_odors

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(file:///C:/Users/Evan/Documents/KJournal/Online%20Editor%20Stuff/Blog%20Posts/Evan%20Sloan%20Blog%202.docx#_ednref25) *Id.*

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